



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Case No. 97,022-G1)

9

In the Application of:

Dunlay and Taylor

Serial No.: 09/721,168

Filed: November 22, 2000

Title: A System for Cell Based Screening

)
)
) Art Unit: 1641
)
) Examiner: TBA
)
)
)

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Pursuant to 37 C.F.R. Section 1.97 - 1.99, the Applicant wishes to make the following references of record in the above-identified application. This Information Disclosure Statement is in compliance with the continuing duty of candor as set forth in 37 C.F.R. Section 1.56. Copies of the references cited below are enclosed. These references are also listed on the enclosed PTO Form 1449.

In the judgment of the undersigned, portions of the listed references may be material to the Examiner's consideration of the presently pending claims. However, the references have not been reviewed in sufficient detail to make any other representation and, in particular, no representation is intended as to the relative relevance between references, whether cited in this or prior statements. This statement is not a representation that the listed references have effective dates early enough to be "prior art" within the meaning of 35 U.S.C. Section 102 or Section 103.

United States Patents

1. Craighead et al., United States Patent No. 4,344,816, issued August 17, 1982.
2. Kamentsky, United States Patent No. 4,647,531, issued March 3, 1987.
3. Jansson et al., United States Patent No. 4,673,988, issued June 16, 1987.
4. Horan et al., United States Patent No. 4,762,701, issued August 9, 1988.
5. Horan et al., United States Patent No. 4,783,401, issued November 8, 1998.
6. Horan et al., United States Patent No. 4,859,584, issued August 22, 1989.
7. Hemstreet et al., United States Patent No. 4,982,739, issued January 8, 1991.
8. Boris et al., United States Patent No. 5,031,797, issued July 16, 1991.
9. Kamentsky, United States Patent No. 5,072,382, issued December 10, 1991.
10. Leaback, United States Patent No. 5,096,807, issued March 17, 1992.
11. Kamentsky et al., United States Patent No. 5,107,422, issued April 21, 1992.
12. Pirrung et al., United States Patent No. 5,143,854, issued September 1, 1992.
13. Carlotta et al., United States Patent No. 5,233,369, issued August 3, 1993.
14. Ivarrson et al., United States Patent No. 5,313,264, issued May 17, 1994.
15. Georger et al., United States Patent No. 5,324,591, issued June 28, 1994.
16. Hozier, United States Patent No. 5,326,691, issued July 5, 1994.
17. Winkler et al., United States Patent No. 5,384,261, issued January 24, 1995.
18. Harpold et al., United States Patent No. 5,401,629, issued March 28, 1995.
19. Harpold et al., United States Patent No. 5,436,128, issued July 25, 1995.
20. Carlotta et al., United States Patent No. 5,486,855, issued January 23, 1996.
21. Chalfie et al., United States Patent No. 5,491,084, issued February 13, 1996.
22. Kaltenbach, United States Patent No. 5,500,071, issued March 19, 1996.
23. Hoisington et al., United States Patent No. 5,502,467, issued March 26, 1996.
24. Reinhartz et al., United States Patent No. 5,527,673, issued June 18, 1996.
25. Lockhart et al., United States Patent No. 5,556,752, issued September 17, 1996.
26. Dovichi et al., United States Patent No. 5,567,294, issued October 22, 1996.
27. Swedberg et al., United States Patent No. 5,571,410, issued November 5, 1996.
28. Kelly et al., United States Patent No. 5,581,487, issued December 3, 1996.
29. Zanzucchi et al., United States Patent No. 5,585,069, issued December 17, 1996.
30. Akong et al., United States Patent No. 5,670,113, issued September 23, 1997.

31. Zhou et al., United States Patent No. 5,732,150, issued March 24, 1998.
32. Broad, United States Patent No. 5,776,675, issued July 7, 1998.
33. Price et al., United States Patent No. 5,790,710, issued August 4, 1998.
34. Kamensky et al., United States Patent No. 5,885,840, issued March 23, 1999.
35. Barak et al., United States Patent No. 5,891,646, issued April 6, 1999.
36. Okun et al., United States Patent No. 5,919,646, issued July 6, 1999.
37. Dunlay et al., United States Patent No. 5,989,835, issued November 23, 1999.
38. Akong et al., United States Patent No. 6,057,114 issued May 2, 2000.
39. Taylor, United States Patent No. 6,103,479, issued August 15, 2000.
40. Barak et al., United States Patent No. 6,110,693, issued August 29, 2000.
41. Akong et al., United States Patent No. 6,127,133, issued October 3, 2000.

Foreign Documents

42. Bacus et al., WO 87/02802, published May 7, 1987.
43. Chalfie et al., WO 95/07463, published March 16, 1995.
44. Ward et al., WO 95/21191, published August 10, 1995.
45. Lee et al., WO 96/09598, published March 28, 1996.
46. Dunlay et al., WO 98/38490, published September 3, 1998.
47. Thastrup et al., WO 96/23898, published August 8, 1996.
48. Haseloff et al., WO 96/27675, published September 12, 1996.
49. Japanese Patent No. S61-31282, Issued February 14, 1986.
50. Japanese Patent No. H1-165958, Issued June 29, 1989.
51. Japanese Patent No. Hei 4(1992)-69776, Issued March 4, 1992.
52. Japanese Patent No. 5-501151, Issued March 4, 1993.

Other Documents

53. Aplin et al., (1997), *Anal. Biochem.*, 113:144-148.
54. Bailey et al., (1993), *Nature*, 366:44-48.
55. Barak et al., (1997), *J. Biol. Chem.*, 272(44):27497-27500.

56. Barber et al., (1996), *Neuroscience Letters*, 207:17-20.
57. Beggs, (1997), *J. of Biomolec. Screening*, 2(2):71-78.
58. Bell, Jr. et al., (1987), *J. Histochem. And Cytochem.*, 35:1375-1380.
59. Bhatia et al., (1993), *Analytical Biochemistry*, 208:197-205.
60. Brejc et al., (1997), *Proc. Natl. Acad. Sci.*, 94:2306-2311.
61. Bright et al., (1987), *J. Cell Biol.*, 104:1019-1033.
62. Bright et al., (1989), *J. Cell. Physiol.*, 141:410-419.
63. Bright et al., (1989), *Methods in Cell Biology*, 30:157-192.
64. Bright et al., (1996), *Cytometry*, 24:226-233.
65. Brinkley, (1992), *Bioconjugate Chem.*, 3:2-13.
66. Bulinski et al., (1997), *J. Cell Science*, 110:3055-3064.
67. Calvert et al., (1994), *Journal of Vacuum Science and Technology B* 12:3884-3997.
68. Calvert et al., (1995), *In Thin Films, A. Ulman, Ed., Academic Press, Boston*, 20:109-141.
69. Chalfie et al., (1994), *Science*, 263:802-805.
70. Channavajjala et al., (1997), *J. Cell. Sci.*, 110:249-256.
71. Chen et al., (1997), *Biophys. J.*, 72:37-50.
72. Cheng et al., (1996), *Nature Biotechnology*, 14:606-609.
73. Chrisey et al., (1994), *Proceedings, Materials Research Society*, 330:179-184.
74. Chrisey et al., (1996), *Nucleic Acids Research*, 24: 3031-3039.
75. Chrisey et al., (1996), *Nucleic Acids Research*, 24:3040-3047.
76. Clarke et al., (1992), *J. Cell Science*, 102:533-541.
77. Clarke et al., (1994), *BioTechniques*, 17:1118-1125.

78. Cohen, (1997), *Bioc hem ical J.*, 326:1-16.
79. Craighead et al., (1980), *Appl. Phys. Lett.*, 37:653-655.
80. Craighead et al., (1982), *J. Vac. Sci. Technology*, 20:316-319.
81. Cubitt et al., (1995), *Trends in Biochemical Science*, 20:448-455.
82. Daaka et al., (1998), *J. Biol. Chem.*, 273(2):685-688.
83. Davis et al., (1995), *Dev. Biology*, 170:726-729.
84. DeBiasio et al., (1996), *Mol. Biol. Cell*, 7:1259-1282.
85. Denk et al., (1990), *Science*, 248:73-76.
86. Deprez et al., (1997), *J. Biol. Chem.*, 272(28):17269-17275.
87. Dulcey et al., (1991), *Science*, 252:551-554.
88. Dulcey et al., (1996), *Langmuir*, 12:1638-1650.
89. Ehrig et al., (1995), *FEBS Letter*, 367:163-166.
90. Ellenberg et al., (1997), *J. Cell Biol.*, 138(6):1193-1206.
91. Farkas et al., (1993), *Annu. Rev. Physiol.*, 55:785-817.
92. Federov et al., (1994), *J. Mol. Biol.*, 241:480-482.
93. Firestone et al., (1991), *Cytometry*, 12:195-206.
94. Frisch et al., (1996), *Bioconjugate Chem.*, 7:180-186.
95. Gerritsen et al., (1997), *J. of Fluorescence*, 7(1):11-15.
96. Giuliano et al., (1987), *Anal. Biochem.*, 167:362-371.
97. Giuliano et al., (1990), *Optical Microscopy for Biology*, 543-557.
98. Giuliano et al., (1995), *Annu. Rev. of Biophysics and Biomole. Struc.*, 24:405-434.
99. Giuliano et al., (1995), *Curr. Op. Cell Biol.*, 7:4-12.
100. Giuliano et al., (1995), *Methods in Neuroscience*, 27:1-16.

101. Giuliano, (1996), *Cell Motil. Cytoskel.*, 35:237-253.
102. Go et al., (1997), *Analytical Biochemistry*, 247:210-215.
103. Goldmacher et al., (1992), *Bioconjugate Chem.*, 3:104-107.
104. Goldman et al., (1995), *Experimental Cell Research*, 221:311-319.
105. Gonzales et al., (1987), *Digital Image Processing*, 391-448.
106. Gonzales et al., (1995), *Biophysics J.*, 69:1272-1280.
107. Gough et al., (1993), *J. Cell Biol.*, 121(5):1095-1107.
108. Grabarek and Gergely, (1990), *Anal. Biochem.*, 185:131-135.
109. Graham et al., (1973), *Virology*, 52:456-467.
110. Gratton et al., (1994), *Proc. of the Microscopical Society of America*, 154-155.
111. Groen et al., (1985), *Cytometry*, 6:81-91.
112. Hahn et al., (1992), *Nature*, 359:736-738.
113. Hahn et al., (1993), *Biological Techniques*, 349-359.
114. Harms et al., (1984), *Cytometry*, 5:236-243.
115. Harootunian et al., (1993), *Mol. Biol. of the Cell*, 4:993-1002.
116. Haselhoff et al., (1997), *Proc. Natl. Acad. Sci.*, 94:2122-2127.
117. Haugland, (1996), *Handbook of Fluorescent Probes and Research Chemicals*, 6th edition, Molecular Probes, Inc. 325-331.
118. Heim et al., (1996), *Curr. Biol.*, 6:178-182.
119. Htun et al., (1996), *Proc. Natl. Acad. Sci.*, 93:4845-4850.
120. Hu et al., (1995), *FEBS Letters*, 369:331-334.
121. Johnson et al., (1985), *J. Electron Microscopy Tech.*, 2:129-138.
122. Johnson et al., (1996), *Cell*, 85:149-158.

123. Kaether et al., (1995), *FEBS Letters*, 369:267-271.
124. Kahl et al., (1997), *J. Biomol. Screening*, 2:33-40.
125. Kapur et al., (1996), *Journal of Biomedical Materials Research*, 33:205-216.
126. Kebler et al., (1996), *FEBS Letters*, 395:225-227.
127. Kessler et al., (1991), *Spectrochimica Acta*, 47A(2):187-192.
128. Kislauskis et al., (1994), *J. Cell Biol.*, 127(2):441-451.
129. Kittler et al., (1985), *Computer Vision, Graphics, and Image Processing*, 30:125-147.
130. Kleinfeld et al., (1988), *J. Neuroscience*, 8:4098-4120.
131. Lakowicz et al., (1992), *Anal. Biochem.*, 202:316-330.
132. Lambrechts et al., (1995), *Eur. J. Biochem.*, 230:281-286.
133. Lee et al., (1996), *Biochemistry*, 35:6010-6019.
134. Lee et al., (1997), *Biochemistry*, 36:2701-2708.
135. Liang et al., (1997), *J. of Molec. Biol.*, 274:291-302.
136. Lopez et al., (1993), *J. Am. Chem. Soc.*, 115:5877-5878.
137. Martinez-Zaguilan et al., (1996), *Am. J. Physiol.*, 270:C1438-C1446.
138. McCaffrey et al., (1996), *J. Biomolec. Screening*, 1(4):187-190.
139. McCann et al., (1997), *Proc. Natl. Acad. Sci.*, 94:5679-5684.
140. McKenzie et al., (1988), *J. Prot. Chem.*, 7:581-592.
141. McNeil et al., (1984), *J. Cell Biol.* 98:1556-1564.
142. McNeil, (1989), *Methods in Cell Biology*, 29:153-173.
143. Morise et al., (1974), *Biochemistry*, 13(12):2656-2662.
144. Mrkisch and Whitesides, (1996), *Ann. Rev. Biophys. Biomol. Struct.*, 25:55-78.
145. Oancea et al., (1998), *The Journal of Cell Biology*, 140(3):485-498.

146. Palm et al., (1997), *Struct. Biol.*, 4(5):361-365.
147. Pillai, (1980), *Synthesis*, 1-26.
148. Pillai, (1987), *In Organic Photochemistry*, 9:225-323.
149. Poot et al., (1996), *J. Histochem. And Cytochem.*, 44:1363-1372.
150. Post et al., (1995), *Mol. Biol. Of the Cell*, 6:1755-1768.
151. Presley et al., (1997), *Nature*, 389:81-85.
152. Prime et al., *Science*, 252:1164-1167.
153. Ridler et al., (1978), *IEEE Trans. Systems, Man, and Cybernetics*, 8:630-632.
154. Rizzuto et al., (1992), *Nature*, 358:325-327.
155. Russ, (1992), *The Image Processing Handbook*, 225-275.
156. Sawin et al., (1993), *In Biological Techniques*: 405-419.
157. Schroeder and Neagle, (1996), *J. Biomol. Screening*, 1:75-80.
158. Scneckenburger et al., (1997), *Photochemistry and Photobiology*, 66(1), 34-41.
159. Self and Thompson, (1996), *Nature Medicine*, 2:817-820.
160. Self et al., (1995), *Methods in Enzymology*, 256:3-10.
161. Senter, (1985), *Photochem. And Photobiol.*, 42:231-237.
162. Shimoura et al., (1988), *J. of Biochemistry*, 251:405-410.
163. Sigal et al., (1996), *Anal. Chem.*, 68:490-497.
164. Singhvi et al., (1994), *Science*, 264:696-698.
165. Southwick et al., (1990), *Cytometry*, 11:418-430.
166. Spargo et al., (1994), *PNAS*, 91:11070-11074.
167. Stenger et al., (1992), *Journal of the American Chemical Society*, 114:8435-8442.
168. Suh et al., (1983), *Proc. SPIE*, 382:199-201.
169. Sutoh, (1982), *Biochemistry*, 21:3654-3661.

170. Swaninathan et al, (1997), *Biophysics J.*, 72:1900-1907.
171. Tanaka et al., (1987), *Applied Optics*, 26(16):3301-3307.
172. Tanaka et al., (1995), *Methods in Enzymology*, 256:41-49.
173. Tarasova et al., (1997), *The Journal of Biological Chemistry*, 272(23):14817-14824.
174. Taylor et al., (1992), *American Scientist*, 80:322-335.
175. Taylor et al., (1994), *J. Biol. Chem.*, 269(1):308-318.
176. Taylor et al., (1994), *Toxicologic Pathology*, 22:145-159.
177. Taylor et al., (1996), *Intl. Soc. for Optical Engineering*, 2678: 15-27.
178. Thevinin et al., (1992), *Eur. J. Biochem.*, 206:471-477.
179. Thomas et al., (1979), *Biochemistry*, 18(11):2210-2218.
180. Tsien, (1989), *Methods in Cell Biology*, 30:127-156.
181. Tyagi et al., (1996), *Nat. Biotechnol.*, 14:303-308.
182. Waggoner et al., (1996), *Hum. Pathol.*, 27:494-502.
183. Walker et al., (1993), *J. Biol. Chem.* 268:19552-19558.
184. Wang, (1989), *Methods in Cell Biology*, 29:1-12.
185. Ward et al., (1980), *Photochem. Photobiol.*, 31:611-615.
186. Welch et al., (1995), *In Vitro Cell. Dev. Biol.-Animal* 31:610-616.
187. Willner and Rubin, (1996), *Chem. Int. Ed. Engl.*, 35:367-385.
188. Yen et al., (1989), *Makromol. Chem.*, 190:69-82.

Co-Pending Applications

The Applicants hereby notify the Examiner of the following commonly owned, co-pending applications that relate to the instant U.S. Application Serial Nos.:

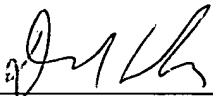
<u>Serial No.</u>	<u>Filing Date</u>	<u>Attorney Docket No.</u>
09/031,271	02/27/98	97,022-B
09/293,210	04/16/99	97,022-G

In accordance with MPEP Sections 609 and 707.05(b), it is requested the document cited be given thorough consideration and that it be cited of record in the prosecution history of the present application by initialing on Form PTO-1449. Such initialing is requested even if the Examiner does not consider a cited document to be sufficiently pertinent to use in a rejection, or otherwise does not consider it to be prior art for any reason, or even if the Examiner does not believe that the guidelines for citation have been fully complied with. This is requested so that each document becomes listed on the face of the patent issuing on the present application.

Respectfully Submitted,

Date: 1/23/02, 2002

By:



David Harper
Reg. No. 42,636
**McDonnell, Boehnen
Hulbert & Berghoff**
300 South Wacker Drive
Chicago, IL 60606